VHD-VFD/DN & VHD-VRD/DN

VISTA

INSTALATION MANUAL

CE Pb

INFORMATION FOR USER

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Regulatory Notice

This device complies with the requirements set forth in EMC Directive : 2004/108/EC of CE Rules. Operation is subject to the following two conditions :

(1)This device may not cause harmful interference, and

(2) this device must accept any interference received, including

interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A Digital Devices pursuant to EMC Directive : 2004/108/EC of CE Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:
◆ Do NOT use other than specified power source.
◆ Do NOT expose the internal plastic model to rain or moisture.

CONTENTS

PRECAUTIONS

Do not install the camera in extreme temperature conditions.
Do use the camera unless the temperature is within -10°C to 50 C.
Be especially careful to include ventilation in high temperatures.

Do not install or use the camera in an environment where the humidity is high.
It can cause the image quality to be poor.

Do not install the camera under unstable lighting conditions.
Severe lighting change or flicker can cause the camera to work improperly.

Never use the camera close to a gas or oil leak.
It can cause malfunctions to occur.

Do not disassemble the camera.
There are no user-serviceable parts inside it.

Do not drop the camera or subject it to physical shocks.
It can cause malfunctions to occur.

Never keep the camera faced to a strong light directly.
It can damage the sensor.

Do not expose the plastic housed camera to rain or moisture.
If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode the electronic components.

Note
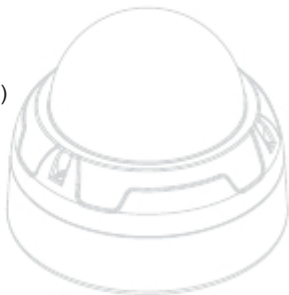*If the camera is exposed to spotlight or object reflecting the strong light, smear or blooming may occur.*
Please check whether the power satisfies the normal specification before connecting the camera.

FEATURES

VANDAL DOME HOUSING
This colour video camera is designed for use in security systems.

· IP67 Rating, Aluminum Die-casting Rugged Vandal proof Camera

· Wall or Ceiling Mounting through 3-Axis camera bracket

· 1/3" Panasonic CMOS sensor

· Full HD Resolution

· DAY & NIGT

· WDR (Wide Dynamic Range)

· DNR (Digital Noise Reduction, 2D+3D)

· Privacy mask Function

· On Screen Display

· Intelligent motion detection

· HD-SDI/CVBS Output

· Multi Protocol(PELCO-D, PELCO-P)

FEATURES

PLASTIC DOME HOUSING

This colour video camera is designed for use in security systems.

· Wall or Ceiling Mounting through 3-Axis camera bracket

· Safety strap holds dome cover in place while making adjustments

· 1/3" Panasonic CMOS sensor

· Full HD Resolution

· DAY & NIGHT

· WDR (Wide Dynamic Range)

· DNR (Digital Noise Reduction, 2D+3D)

· Privacy mask Function

· On Screen Display

· Intelligent motion detection

· HD-SDI/CVBS Output

· Multi Protocol(PELCO-D, PELCO-P)

MODEL SELECTION

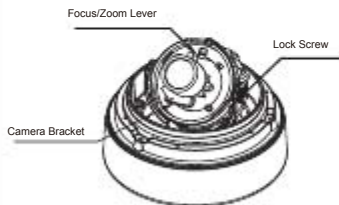**3PCS VANDAL HOUSING**

Normal type

PLASTIC HOUSING

Normal type

PART NAMES

3PCS VANDAL HOUSING

Focus/Zoom Lever

Lock Screw

Camera Bracket

I

NORMAL TYPE

PLASTIC HOUSING

Focus/Zoom Lever

Lock Screw
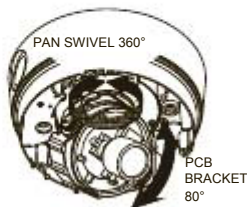
Camera Bracket
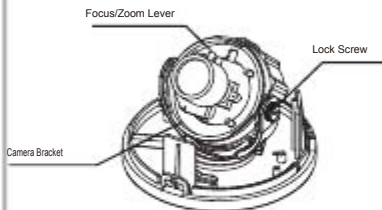
NORMAL TYPE

3-AXIS

Set Camera DIRECTION (3-axis movement)

Ceiling Type | Wall Type

PAN SWIVEL 360°

PCB BRACKET 80°

TILT SWIVEL 360°

PCB BRACKET 80°

PAN SWIVEL 360°

hold the 4 points and swivel it.

TILT SWIVEL 360°

PCB BRACKET 80°

PCB BRACKET 90°
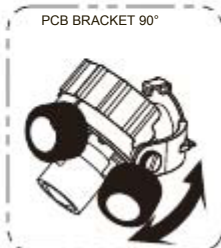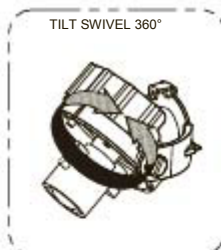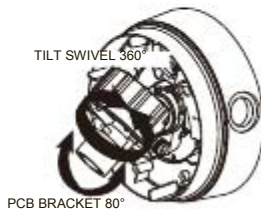
CAMERA SETTING

Camera Setting

Lock Screw

Focus / Zoom
Lever Cover Open

Focus / Zoom Lever

Menu Operation

GND(GRAY)

ADKEY(PINK)

DC12V

CVBS (YELLOW)

SDSDI (BLUE SKY)
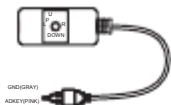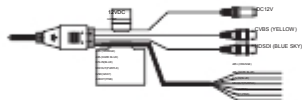
- Up button : Moves the cursor upwards. Use this button to select an item or adjust the parameters.
- Down button : Moves the cursor downwards. Use this button to select an item or adjust the parameters.
- Right button : Moves the cursor to the right. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.
- Left button : Moves the cursor to the left. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.
- Set button : Executes selections and displays a submenu for an item with the [↵] mark.

INSTALLATION

Plastic Dome Camera

3 pcs Vandal Dome Camera

Mount Screw

Open

Dome Cover

Surface Mount bracket

Mount CAP

PISE With Rubber

Dome Base

Machine Screw With Rubber

Decoration Ring Dome cover

L-Wrench
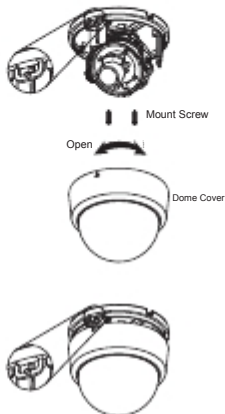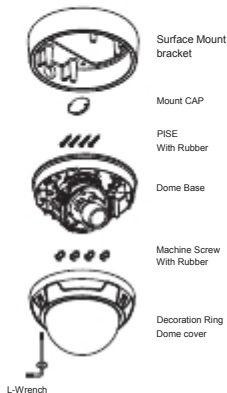
1. Dome Base Mounting
 - Remove the protecting sheet from the rubber bottom and attach it on the base housing.
 - Fix the base housing with the supplied 4pcs of screws (No.8-38 UNC) on the ceiling or wall.
2. Power Supply & Monitor Impedance (Power supply)
 - Adaptor: DC12V/1A regulated Power Supply (DC12V Model)
 - To avoid fire or shock hazard, must use a UL listed power supply. (Monitor Impedance, if available)
 - Set the impedance switch to the 75Ω standard position unless other equipment is looped out of the monitor.
3. Camera Module Adjustment (Pan&Tilt Adjustment)
 - Adjust the camera direction by turning the pan bracket left or right, the tilt bracket up or down, then fix the screws tight. (View Angle Adjustment)
 - For a wider view angle move the zoom lever to wide, for a narrower view angle move it to tele.
 - After accurate adjustment of focal length then adjust the focus lever to near or far for the sharpest focus.

4. Decoration Ring Mounting
 - Firmly fix the decoration ring into place with the screws and by using the supplied L-wrench on the base housing.

ACCESSORIES AND OTHERS

PLASTIC DOME TYPE

Mount Screw OSD key User's Manual

3PCS VANDAL HOUSING

Security Tool Mount Screw L-wrench
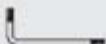
Mount Cap OSD key User's Manual

CONNECTION

DC 12V power Input Model

- Connect the video out jack to the video in jack monitor
- Connect the adapter to the power input connecter
- Use a DC12V and 1A adapter

12VDC
CAUTION!

DC12V

CVBS (YELLOW)

HDSDI (BLUE SKY)

485+(ORANGE)
485-(WHITE)
D/IN-IN(BLUE)
MD/OUT(PURPLE)
GND(GRAY)
ADKEY(PINK)

485+(ORANGE)
485-(WHITE)
D/IN-IN(BLUE)
MD/OUT(PURPLE)
GND(GRAY)
ADKEY(PINK)
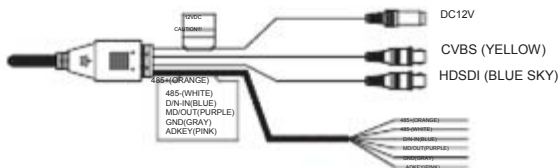
DIMENSIONS (MM)

PLASTIC HOUSING

φ100.0
102.
49.
φ124.1
68.5

3PCS VANDAL HOUSING

119.0
Ø143.6
80.0
46.0
80.0
83.5

MAIN MENU

MAIN MENU

```
           MENU
MODEL          D&N
EXPOSURE        ┊
WHITE BAL       ┊
IMAGE           ┊
INTELLIGENCE    ┊
SPECIAL FUNC    ┊
DISPLAY         ┊
EXIT
```
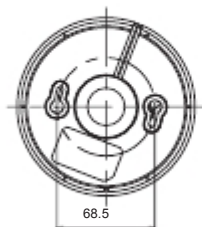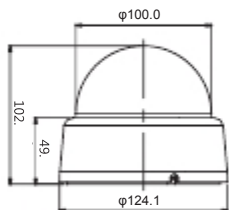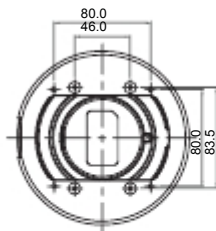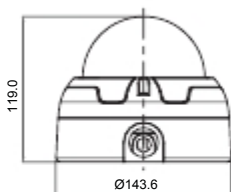
Functions can be set-up using the Menu Key or Pelco protocol.
The menu consists of the "Main Menu" and "Sub Menus".
The main Menu displays 6 camera functions that can be selected.
Sub-Menus are displayed by pressing each main menu selection.

MODEL

 Select model
· D&N / COLOR

EXPOSURE

EXPOSURE

```
        MENU
MODEL
EXPOSURE
WHITE BAL
IMAGE
INTELLIGENCE
SPECIAL FUNC
DISPLAY
EXIT
```

```
       EXPOSURE
BRIGHTNESS    IıIıII11
LENS          DC
SHUT SPEED    AUTO
DSS           OFF
AGC           OFF
WDR/BLC       OFF
DAY&NIGHT     ┴
SMART IR      OFF
RETURN
```
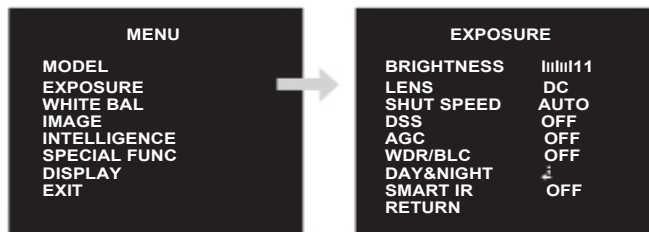
· BRIGHTNESS: Adjust brightness level.
  - 0 (dark) ~ 20 (bright) steps.
· LENS - MANUAL
· SHUT SPEED: Can be set to AUTO or MANUAL
  - AUTO / 1/25,1/50,1/100,1/240,1/500,1/1000,
    1/2000,1/4000,1/8000,1/16000,1/30000,1/60000 sec
· DSS: Select maximum DSS (Digital Slow Shutter).
  - OFF / x2, x3, x4
·AGC: Select Auto Gain Control.
  - OFF / ON
· WDR/BLC: Select WDR (Wide Dynamic Range) or BLC (Back Light Compensation).
  - WDR
    ▷ WEIGHT: Adjust WDR level - 0 ~ 3.
· BLC
    ▷ AREA: Control BLC area according to lighting conditions.
    ▷ POS-X: Adjust the window X-Axis position.
    ▷ POS-Y: Adjust the window Y-Axis position.
    ▷ SIZ-X: Adjust the window X-Axis size.
    ▷ SIZ-Y: Adjust the window Y-Axis size.
  * When WDR is ON, ACE and DEFOG functions do not turn on.

EXPOSURE

· DAY&NIGHT : Select Day&Night
 1. D&N Model
 - AUTO / DAY / NIGHT / EXT
   ▷ Delay : 0 ~ 255 second
   ▷ BURST : OFF / ON
   ▷ THRS : LOW / MIDDLE / HIGH
     Select Day&Night change level. Higher level make the night mode
     changed in lower illumination.
   ▷ GAP : LOW / MIDDLE / HIGH
     Select the switchover delay time from Day to Night, and from
     Night to Day.
 2. COLOR Model
 - AUTO / DAY / NIGHT / EXT
   ▷ Delay : 0 ~ 255 second
   ▷ BURST : OFF / ON
   ▷ THRS : LOW / MIDDLE / HIGH
   ▷ GAP : LOW / MIDDLE / HIGH

WHITE BALANCE

WHITE BALANCE

```
         MENU                    WHITE BAL

  MODEL                    AWB           AUTO
  EXPOSURE                 CHROMA      IIIIIII10
  WHITE BAL                RETURN
  IMAGE
  INTELLIGENCE
  SPECIAL FUNC
  DISPLAY
  EXIT
```
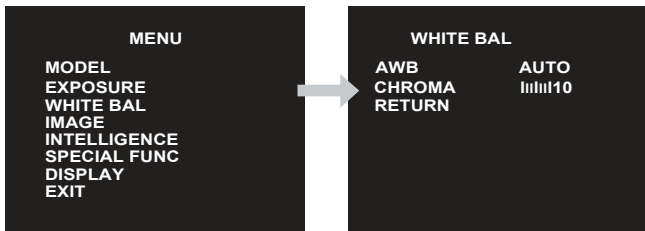
·AWB : Select WHITE BALANCE mode

        - AUTO / PRESET / MANUAL / INDOOR / OUTDOOR

  ▷ AUTO : Automatically adjusts color according to the lighting.

  ▷ PRESET : It is a fixed white balance mode that can be automatically
          readjusted by pressing PRESET.

  ▷ MANUAL : Change WB by changing "RED GAIN" and "BLUE GAIN"
    in manual mode.

    - RED GAIN : Adjust R gain value 0 ~ 20

    - BLUE GAIN : Adjust B gain value 0 ~ 20

  ▷ INDOOR : Set color temperature to be Indoor light (3700°K)

  ▷ OUTDOOR : Set color temperature to be Outdoor light (5100°K)

·CHROMA : Adjust CHROMA gain value

 - 0 ~ 20 steps

IMAGE

IMAGE

```
            MENU                          IMAGE

     EXPOSURE                      SHARPNESS      5
     WHITE BAL                     MIRROR         OFF
     IMAGE                         FREEZE         OFF
     INTELLIGENCE                  E.ZOOM         X1
     SPECIAL FUNC                  HLC            OFF
     DISPLAY                       ACE            OFF
     EXIT                          DNR            AUTO
                                   D.COMPRESS     OFF
                                   RETURN
```

· SHARPNESS: Adjust sharpness level.
  - 0 ~ 10 steps
· MIRROR: Select a flip mode.
  - OFF / H / V / H&V
    ▷ H: Flips the picture horizontally on the screen.
    ▷ V: Flips the picture vertically on the screen.
    ▷ H&V: Flips the picture horizontally & vertically on the screen.
· Freeze : Select real or still mode.
  - OFF / ON
· E.ZOOM: Select maximum digital zoom magnification.
  - x1 ~ x12, x14, x15, x18, x21, x25, x32
· HLC: Select High Light Compensation.
  If an extremely bright light is projected onto the camera, masking
  is used on this portion to prevent partial saturation of the image.
  - OFF / ON
    ▷ ON LEVEL: 0 ~ 20 steps
            COLOUR: Black, White, Yellow, Cyan, Green, Magenta, Red, Blue
· ACE: Select Digital WDR (Wide Dynamic Range).
  - OFF / ON
  * When ACE is ON, WDR/BLC and DEFOG functions do not turn on.
· DNR: Select Digital Noise Reduction.
  - AUTO / OFF / LOW / MIDDLE / HIGH
· D.COMPRESS: Video image data compression function. Please use
  this function only with an IP camera model.
  - OFF / ON

INTELLIGENT

INTELLIGENT

```
        MENU                    INTELLIGENT

   MODEL                    PRIVACY      OFF
   EXPOSURE                 MOTION       OFF
   WHITE BAL                RETURN
   IMAGE
   INTELLIGENCE
   SPECIAL FUNC
   DISPLAY
   EXIT
```
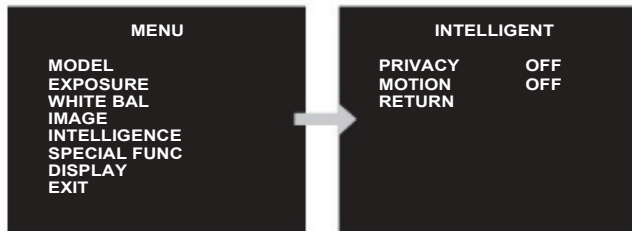
· PRIVACY: Hide an on screen area.

  - OFF / ON
    ▷ MASK#: Select mask area number (0 ~ 31).
    ▷ MODE: Set-up masking areas (OFF / ON).
    ▷ X-POS: Adjust the mask X-Axis position.
    ▷ Y-POS: Adjust the mask Y-Axis position.
    ▷ X-SIZ: Adjust the mask X-Axis size.
    ▷ Y-SIZ: Adjust the mask Y-Axis size.
    ▷ COLOUR : Cyan, Green, Magenta, Red, Blue, Black, White, Yellow
    ▷ TRANS : Select mask transparency level (0 ~ 4) .

· MOTION DET: If there is subject movement on the screen, this
  is detected as motion by the camera.
  - OFF / ON: MD function disable or enable.
    ▷ RESOLUTION: Adjust resolution of MD (0 ~ 4 steps).
      More sensitive at lower settings for resolution.
      When setting is low, one object could be detected as several
      objects. When setting is high, several objects could be
      detected as one object.
    ▷ SENSITIVITY: Adjust sensitivity of MD (0 ~ 20 steps).
      More sensitive to lower settings for sensitivity.
    ▷ AREA: Designate motion detection area (WHOLE / EACH).
        ▷ AREA#: Setting 3 areas (0~2) for motion detection.
        ▷ MODE: Limit and define areas of motion detection.

INTELLIGENT

    ▷ X-POS: Adjust the mask X-Axis position.
    ▷ Y-POS: Adjust the mask Y-Axis position.
    ▷ X-SIZ: Adjust the mask X-Axis size.
    ▷ Y-SIZ: Adjust the mask Y-Axis size.
    ▷ TRANS: Adjust colour tone of out of selected areas.

▷ SMART ZOOM: Adjust SMART ZOOM of MD (OFF / ON).
    ▷ IN/OUT: Working Zoom in/out; time setting. (0 ~ 8 sec).
    ▷ DWELL: When the camera detects an object has effective motion, Zoom in the object for a duration; time setting (0 ~ 8 sec).
    ▷ WAIT: After zooming in, an object moves during the time duration set with Zoom time. Do not zoom in on the object during a duration time setting with Normal Time (0 ~ 8 sec).
▷ INTERVAL : Select the alarm interval time (0 ~ 255 sec).
▷ DWELL: Select the duration time for changing MD mode (0 ~ 255 sec).
▷ RETURN

* PG(Pattern Generator), PRIVACY MASK, MOTION AREA cannot work simultaneously, PG has priority, second is PRIVACY MASK and the bottom is MOTION AREA. For example) PG is ON while PRIVACY MASK is working, PRIVACY MASK stops work and PG starts work.

SPECIAL FUNCTION

SPECIAL FUNCTION

```
            MENU                       SPECIAL FUNC
                                 SHADING DET        OFF
     EXPOSURE                    SHADING            OFF
     WHITE BAL                   DEFECT DET         OFF
     IMAGE                       DEFOG              OFF
     INTELLIGENCE                SYSTEM            NTSC
     SPECIAL FUNC                HD FORMAT        1080P
     DISPLAY                     PG                 OFF
     EXIT                        CVBS                ON
                                 COMM
                                 DEFAULT             ON
                                 RETURN
```
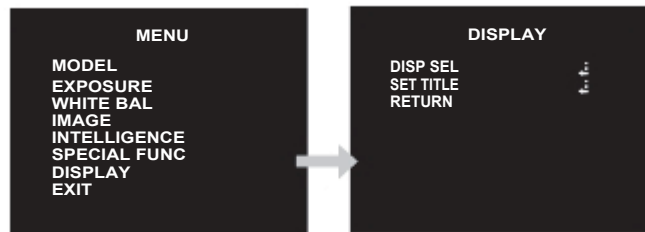
· SHADING DET: Sets the shading calibration that the Lens will perform.
   Only occurs if the entire screen is viewed in white light (OFF / ON).

· SHADING: Select Lens shading compensation (OFF / ON).

· DEFECT DET : Compensates for bad pixels that my appear. Occurs
    when the whole screen is fully black, or if there is bad pixelation,
    and it changes the THRS values until the screen is fixed (OFF / ON).

· DEFOG: Carry out defog function.
   - OFF / ON
      ▷ LEVEL : Adjust amount of fog viewed on the display screen.
          0 ~ 10
   * When DEFOG is ON, ACE and WDR/BLC functions do not turn on.

· SYSTEM: Select NTSC or PAL (NTSC / PAL).

· HD FORMAT: Select Digital Output 1080P or 720P (1080P / 720P).

· PG: Select Colour pattern generator (OFF / ON).

· CVBS: Select Composite signal (OFF / ON).

· COMM: Set up the camera ID, baud rate, protocol.
   ▷ ID: Select the Camera ID.
      - 1 ~ 255
   ▷ BAUD RATE: Select serial communication speed.
      - 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200bps
   ▷ PROTOCOL: Select operating protocol.
      - PELCO-D / PELCO-P / UPDATE

· DEFAULT : All the settings will be restored to their factory defaults.

DISPLAY

DISPLAY

```
              MENU                           DISPLAY

         MODEL                          DISP SEL
         EXPOSURE                       SET TITLE
         WHITE BAL                      RETURN
         IMAGE
         INTELLIGENCE
         SPECIAL FUNC
         DISPLAY
         EXIT
```

· DISP SEL : Select display item.

- ID : OFF / ON
- TITLE : OFF / ON
- EZOOM : OFF / ON

· SET TITLE : Select camera title menu (Text edit)

```
A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z a b c d e f g h i j k l m n
o p q r s t u v w x y z , . ( ) { } [ ]
0 1 2 3 4 5 6 7 8 9 * + - / = ~ ! ? " '
S P      B S          C L R       P O S
RETURN
```

SPECIFICATIONS

Model	VHD-VFD/DN & VHD-VRD/DN
Image Sensor	1/3" Panasonic CMOS
Total Pixels	2010(H) x 1108(V) = 2,227,080 (pixel)
Active pixels	1944(H) x 1092(V) = 2,122,848 (pixel)
Scanning system	Progressive
Resolution	Digital ; 1920x1080p(1080p/30fps) , 1280x720p(720p/60fps)
	Analog : 700TVL
Min. illumination	Color : 1.0 lux , BW : 0.5lux
	Color DSS : 0.002 lux , BW DSS : 0.001 lux
Video Output	HD-SDI
	Analog : NTSC, PAL(without WDR)
S/N Ratio	more than 50dB (AGC off)
Function	
MODEL	D&N / COLOR
EXPOSURE	
BRIGHTNESS	0 ~ 20 steps
LENS	DC / Manual
SHUT SPEED	Auto / Manual (1/30(1/25) ~ 1/60000)
DSS	Off / x2 / x3 / x4
AGC	Off / On
WDR/BLC	Off / WDR / BLC
DAY&NIGHT	Auto / Day / Night / Ext
SMART IR	
WHITE BAL	Auto / Preset / Manual / Indoor / Outdoor
IMAGE	
SHARPNESS	0 ~ 10 steps
MIRROR	Off / H / V / H&V
FREEZE	Off / On

SPECIFICATIONS

Model	VHD-VFD/DN & VHD-VRD/DN
E.ZOOM	x1 ~ x32
HLC	Off / On
ACE	Off / On
DNR	Off / Low / Middle / High / Auto
D.COMPRESS	OFF / ON
INTELLIGENCE	
PRIVACY	Off / On (32 points)
MOTION	Off / On (4 points)
SPECIAL FUNC	
SHADING DET	Off / On
SHADING	Off / On
DEFECT DET	Off / On
DEFOG	Off / On
SYSTEM	NTSC / PAL
HD FORMAT	1080P / 720P
PG	Off / On
CVBS	Off / On
COMM	ID (1 ~ 255)
	BAUDRATE (2400 / 4800 / 9600 / 19200 / 38400 / 57600/115200)
	PROTOCOL (PELCO-P / PELCO-D / UPDATE)
DEFAULT	ON / DONE
Language	English
OSD Text	0~9,A~Z,a~z
Electrical	
Power Source	DC12V TYPE : DC12V±10%
	DC12V±10%
Power Consumption	DC12V TYPE : 250mA
	350mA (DC12V±10%)

SPECIFICATIONS

Model	VHD-VFD/DN & VHD-VRD/DN
General	
Power Input	DC JACK
Video Output(HD-SDI)	BNC Connector
Operating Temperature	-10℃ ~ +50℃ (Humidity : 0%RH ~ 80%RH)
Storage Temperature)	-20℃ ~ +60℃ (Humidity : 0%RH ~ 90%RH)

TROUBLESHOOTING

TROUBLESHOOTING

If there are problems in operation, refer to the possible solutions below.
If the problem persists, please contact the distributor you purchased this product from.

Possible Problems & Solutions

· Nothing appears on the screen.

-Check the power connections and power supply is functioning.

-Check the video signal line connections.

-Check, and make sure, that the lens mode is set to DC (VIDEO) when using a
 VIDEO (DC) lens.

· The video image is not clear.

-Clean the lens with a soft lint free clean cloth.

-Adjust so the camera is not facing directly toward a bright light source.

-Move the camera if necessary.

-Re-adjust the back-focus of the camera.

· The screen is dark.

-Adjust the contrast feature of the monitor.

-If there's an intermediate device, set the 75Ω /Hi-Z properly; check termination.

-Check if an auto iris lens is being used and adjust the brightness level.

· The MOTION DETECTION function is not working

-Check if "MOTION DETECTION" mode is turned on in OSD menu.

-Check if the MD Sensitivity is too low.

-Check the setting of the MD AREA.

· The WDR function is not working

-Check if the WDR Level is too low.

-Check if the AE Mode is set to MANUAL. The WDR doesn't work in MANUAL
 Exposure mode.

· Colours are not quite right.

-Check if the camera is facing directly into sunlight or fluorescent light.

-Check if an auto iris lens is being used.

-Check, if applicable, the connection of the lens connector cable.

· The Day & Night function doesn't work.

- Check if the mode is set to something other than Auto mode.

- Check the Day < > Night LEVEL.

MEMO